

**REMARKS**

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested. Claims 8 – 10 have been canceled without prejudice or disclaimer. Claims 11-13 have been added. Claims 1-7 and 11-13 are pending, with claims 1 and 11-13 being independent.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 102**

Claims 1, 3-5 and 7-10 stand rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,021,009 ("Borodovsky"). This rejection is respectfully traversed.

Initially, claims 8-10 have been canceled without prejudice or disclaimer thereby rendering the rejection of these claims moot.

The rejection of claims 1, 3-5 and 7 is traversed as follows.

Borodovsky discloses an optical compensator for correcting non-uniformity in CD distributions. As shown in FIG. 5, an optical compensator 40 is utilized to compensate for the dose/CD variations shown in FIGS. 4A and 4B. The optical compensator 40 is transparent (shown by transparent or clear regions 41), except for light absorbing regions 42 dispersed at certain locations throughout. The light absorbing (or "dark") regions 42 are placed to reduce the light exposure at the higher dose areas of the target. FIGS. 7 and 8 illustrate implementations of the optical compensation technique shown in FIG. 5.

In FIG. 7, the optical compensator 40 of FIG. 5 is implemented as a compensating filter 45. The filter 45 is inserted between the light source 12 and the mask 10 so that only illumination intensity at the mask plane is affected. The filtering action of the filter 45 reduces light intensity at those regions which would normally result in higher exposure dose at the target. In FIG. 8, the optical compensator 40 is implemented as part of the mask 10. Gradient neutral density filter

features 46 are fabricated on the backside of the mask 10. The features 46 perform the same compensating function as the filter 45, but are part of the mask in FIG. 8.

Claim 1 is directed to a method of compensating for process-induced CD variations in a pattern generator printing patterns on masks. According to this method, a two-dimensional critical dimension (CD) distribution associated with pattern printed on a first mask is determined, and a two-dimensional dose compensation file to equalize variations in said two-dimensional CD distribution is generated. Within the mask pattern generator, the dose is adjusted in accordance with the two-dimensional dose compensation file. A second mask is then patterned using said adjustment of the dose in said mask pattern generator.

Contrary to the method of claim 1, however, Borodovsky, at most, uses an optical compensator 40 for dose compensation. Borodovsky does not generate a "two-dimensional dose compensation file," and adjust, "in said mask pattern generator, the dose in accordance with said two-dimensional dose compensation file," as required by claim 1. Moreover, Borodovsky is silent with regard to, "determining a two-dimensional critical dimension (CD) distribution associated with pattern printed on a first mask," and "patterning a second mask using said adjustment of the dose in said mask pattern generator," as also required by claim 1.

For at least the foregoing reasons, claim 1 is patentable over Borodovsky. Claims 3-5 and 7 are patentable at least by virtue of their dependency from claim 1.

#### **REJECTION UNDER 35 U.S.C. § 103(A)**

Claims 2 and 6 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Borodovsky and U.S. Patent No. 6,424,879 ("Chilese"). Applicants respectfully traverse this rejection in that even assuming *arguendo* that Borodovsky could be combined with Chilese (which Applicants do not admit), Chilese suffers from the same above-discussed deficiencies as

Borodovsky with regard to claim 1. Therefore, the combination still fails to render claim 1, and in turn claims 2 and 6, *prima facie* obvious. Withdrawal of this rejection is requested.

### **NEW CLAIMS**

Applicants have added new independent claims 11-13, which are also believed to be allowable over Chilese. Although somewhat similar arguments to those set forth above with regard to claim 1 may apply, these new claims should be interpreted solely by the limitations presented therein. Accordingly, allowance of new claims 11-13 is requested.

### **CONCLUSION**

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-7 and 11-13 in connection with the present application is earnestly solicited.

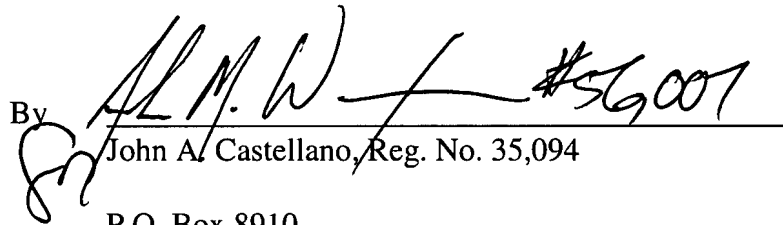
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) hereby petition(s) for a two (2) month extension of time for filing a reply to the outstanding Office Action and submit the required \$450 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application; the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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